

What is claimed is:

1. An ac generator for a vehicle comprising:

a rotor for providing a magnetic field;

5 a stator, disposed around said rotor, said stator having a stator core in which a plurality of phase-windings is mounted to generate electromotive force when the magnetic field is supplied; and

a rectifying unit formed by a bridge circuit which includes positive electrode side rectifying elements and negative electrode side rectifying
10 elements respectively connected to the plurality of phase-windings;

wherein one of the positive electrode side rectifying element and negative electrode side rectifying element connected to at least a portion of the plurality of phase-windings is constituted of a single element and the remainders are constituted of parallelly connected two elements.

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2. The ac generator for a vehicle according to claim 1, wherein the elements constituting the positive electrode side rectifying elements and the negative electrode side rectifying elements are zener diodes.

20 3. The ac generator for a vehicle according to claim 1, wherein one of said parallelly connected two elements is a zener diode and the other is a normal diode.

25 4. The ac generator for a vehicle according to claim 1, wherein each of said parallelly connected two elements has a smaller capacity than other elements.

5. The ac generator for a vehicle according to claim 1, wherein a positive electrode side heat sink to which the positive electrode side rectifying elements are fixed and a negative electrode side heat sink to which the negative electrode side rectifying elements are fixed are respectively disposed in two planes that are perpendicular to a rotation axis of said rotor, and wherein one of the positive electrode side heat sink and the negative electrode side heat sink that is larger in outside diameter than the other comprises a plurality of separate heat sinks.

6. The ac generator for a vehicle according to claim 5, wherein said parallelly connected two elements are respectively fixed to each of the plurality of separate heat sinks.

7. The ac generator for a vehicle according to claim 1, wherein a positive electrode side heat sink to which the positive electrode side rectifying elements are fixed and a negative electrode side heat sink to which the negative electrode side rectifying elements are fixed are respectively disposed in two planes that are perpendicular to a rotation axis of said rotor, and wherein one of the positive and negative electrode side heat sinks comprises a plurality of separate heat sink plates, and wherein said parallelly connected two elements are respectively fixed to each of the plurality of separate heat sinks.

8. The ac generator for a vehicle according to claim 7, wherein said negative electrode side heat sink comprises a pair of heat sink plates.